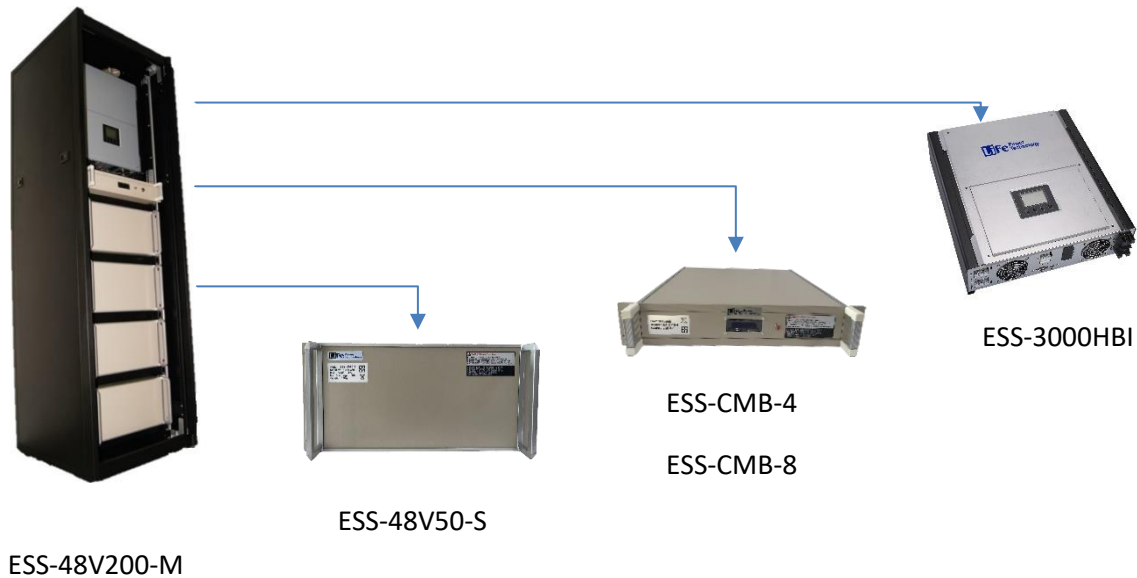


ESS Series - Energy Storage Module and System



■ Main Features of the Energy Storage Module

1. Long Lifespan with Deep Cycles

Up to 6000 cycles* or over 15 years' service life for intermittent use.

*Charge/Discharge under 0.2C for 50% DOD @ 20~30°C and RH%:40~80%.

2. High Performance Safety

The highest thermal stability lithium iron phosphate cells (LiFePO₄) are not susceptible to thermal runaway. The module is equipped with "Smart Cell Balancing" battery management system, which allows:

- Safety during charging and discharging
- Longer lifespan
- Voltage, current and temperature control

The energy storage module's can be controlled safely by monitoring the status of the cells and communicate with external battery management system or controlling unit (CMB).

3. High Charging Acceptability

High-efficiency charging acceptability for improved energy storage efficiency in solar power generation systems

4. High Scalability

The ESS-48V50-S module can be connected in parallel (2~8) for application with higher capacity requirement, and reduce maintenance labor cost and material cost. Furthermore, the module size is also suitable for fitting to standard computer server racks.

5. Eco-Friendly

Iron (lithium iron phosphate) is used as the electrode material, thus enabling reduced environmental impact in comparison to rechargeable lithium-ion batteries that instead use rare metals with extremely limited reserves, and which are therefore in low supply.

■ Specifications

NEW



Energy Storage Module – ESS series

	ESS-48V25-S	ESS-48V50-S	ESS-48V75-S
Cell Type	LFP (Iron phosphate)		
Energy / Capacity	1.2kWh / 25Ah	2.5kWh / 50Ah	3.8kWh / 75Ah
Nominal Voltage	51.2V		
Maximum Discharge (module)	25A / 1.2kW	50A / 2.5kW	75A / 3.7kW
Maximum Charge (module)	58.4V / 25A	58.4V / 50A	58.4V / 75A
Status Monitor	Voltage, Current, Temperature, SOC, Ah etc.,		
Operating Temperature	Discharge: -20deg. C to +65deg. C Charge: 0deg. C to +50deg. C		
Storage Temperature	-40deg. C to +65deg. C		
Weight	Approx. 18kg	Approx. 36kg	Approx. 56kg
Dimensions (mm)	W432 * D480 * H132	W432 * D480 * H220	#W520 * D355 * H273

For customized design rack or cabinet.

Controller Unit – Designed for ESS series

	ESS-CMB-4(8)	Remarks
Operating Voltage Range	19 to 60V	
Maximum Continuous Current / Power	120A / 6kW	Max current has to be within the operating range of the connected modules
Operating Temperature	Discharge: -20deg. C to +65deg. C Charge: 0deg. C to +50deg. C	Room temperature usage / storage is recommended
Storage Temperature	-40deg. C to +65deg. C	
Communication Interface	CAN / RS-485 / RS232	Optional
Maximum number of module connection	Up to 8 modules	Parallel connection only (Serial connection: Please ask)
Weight	Approx. 8kg	-
Dimensions	W432 * D500 * H88 mm	Excluding attachment fixtures

Hybrid Energy System – Pure sine wave inverter/ Battery charger

ESS-3000HBI	
Rated Power	3000W
PV INPUT (DC)	
Maximum Power	3200W
Nominal / Maximum Voltage	360 / 500 VDC
Minimum Start Voltage	116 VDC
MPPT Voltage Range	250 - 450 VDC
Maximum Input Current	13A
Maximum Efficiency	96%
GRID INPUT (AC)	
Nominal Voltage / Range	240 / 211-264VAC
Frequency / Range	60 / 59.3-60.5 Hz*
SYSTEM OUTPUT (AC)	
Nominal Output Voltage	208, 220, 230, 240VAC
Surge Power	6000VA
Efficiency (Peak)	96%
Nominal Output Current	13.1A
Power Factor	> 0.99
Transfer Time	< 15 ms
Pure Sine Wave	Yes
GRID OUTPUT (AC)	
Nominal Output Voltage	208V, 220V, 230, 240 VAC
Max Feeding Power	3000W
Output Voltage Range	184~264.5VAC ($\pm 3\%$)
Max Output Current	13.6A
Efficiency (DC to AC)	92%
Feed-In / Connection Phases	1 / 1
BATTERY CHARGER	
Battery Voltage	48 VDC
Maximum Charging Current	25A
MECHANICAL DATA	
Humidity	0-90% RH (non-condensing)
Operating Temperature	0°C to 40°C
Dimension (W x H x D)	17.1 x 20.0 x 4.8 in (435.4 X 507.3 X 121.3 mm)
Weight	34.1 lbs (15.5 kg)
Enclosure Rating	IP20
Communication Port	RS-232/USB

*Specifications are subject to change without notice